

(Model.)

S. GLIKSMON & A. DOEFF.
BOX FASTENER.

No. 459,703.

Patented Sept. 15, 1891.

Fig. 1.

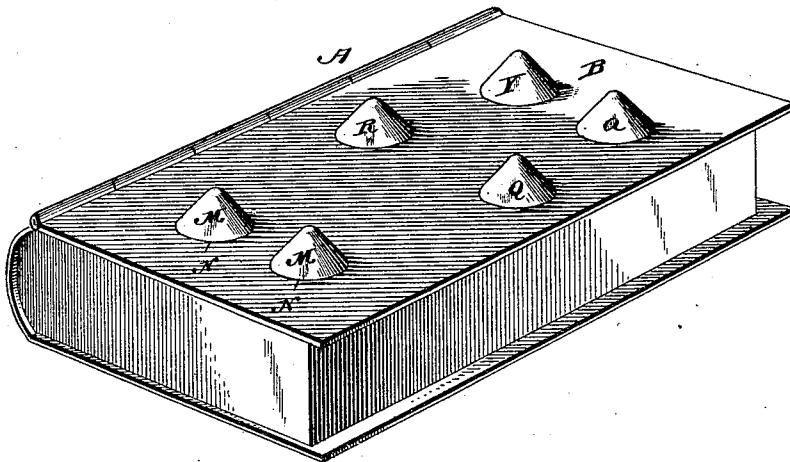


Fig. 2.

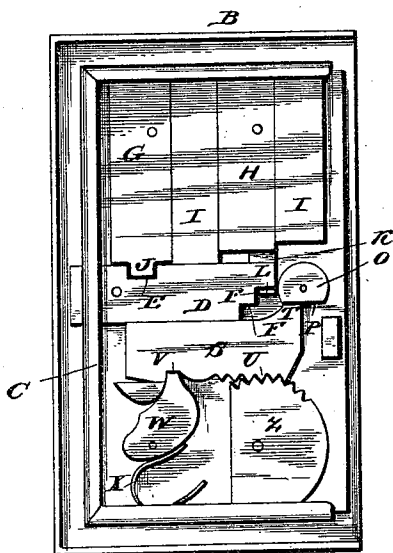
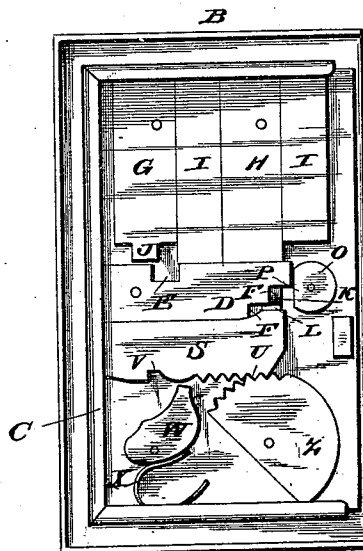


Fig. 3.



Witnesses:

E. W. Fitch
R. H. Bishop

Inventor:
Solomon Gliksmann
Abram Doeff
By, *Walter W. Moore*
Attorney

UNITED STATES PATENT OFFICE.

SOLOMON GLIKSMON AND ABRAM DOEFF, OF PHILADELPHIA, PENNSYLVANIA,
ASSIGNORS OF ONE-THIRD TO ABRAM GOLOMB, OF SAME PLACE.

BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 459,703, dated September 15, 1891.

Application filed March 4, 1891. Serial No. 383,668. (Model.)

To all whom it may concern:

Be it known that we, SOLOMON GLIKSMON, a subject of the King of Poland, and ABRAM DOEFF, a citizen of the United States, both residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Box-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention has for its object the provision of a fastening or lock for jewel or money boxes or similar devices which will be very effectual in its operation and which cannot be quickly opened, thus overcoming the liability of the contents of the box being surreptitiously removed by evil-disposed persons. This object we accomplish by the employment of the mechanism illustrated in the annexed drawings; and the invention consists in certain novel features of the same, as will be hereinafter more fully set forth, and then specifically claimed.

In the drawings just referred to, Figure 1 is a perspective view of a box having our improved fastening applied thereto. Fig. 2 is a bottom plan view of the lid, showing the several parts of the lock arranged to hold the lid closed; and Fig. 3 is a similar view showing the position of the several parts after the lid has been opened.

The box A may be of any desired form or construction and forms no part of our invention. The lid B thereof is provided with a guard or protecting plate C on its under side which covers the several elements of the lock, and thereby serves to hold them in their proper positions and at the same time protect them from injury or loss. We prefer to employ glass for this guard or protecting plate; but it will be readily understood of course that the material is not essential, and it may be of metal or any other suitable substance. By using glass, however, the elements of the lock may be inspected at all times, and the owner of the box thus enabled to readily detect any injury thereto. A sliding bolt D is mounted between the lid and the guard-plate and moves to and away from the edge of the box and is adapted to engage the said edge to lock the box. This bolt is provided with a notch

E in one edge (which for convenience we will designate the "upper" edge) near its front end, and in its lower edge near and at its rear end it is constructed with the shoulders F. Above the bolt we arrange the slides G H, which are mounted between cleats or guides I on the under side of the lid. The slide G is provided at its lower end with a tongue J, which is adapted to engage the notch E in the bolt, and the slide H is provided at its lower end with the tongue K, extending under the end of the bolt and having a tooth or point L, which is adapted to engage the shoulders F of the bolt. On the upper ends of the slides G H we provide the knobs, handles, or rosettes M, which project from the outside of the box and have their stems extending through the slots N in the lid, so as to permit them to move longitudinally of the lid and operate their respective slides. In rear of the bolt we provide a mutilated cam O, having a straight edge P and adapted to rotate in the lid, the shaft of which extends through the lid and is provided with a handle or knob Q, similar to the knobs M. This cam bears against the rear end of the bolt, and the bolt is also provided with a knob or handle R, which has its stem passing through a slot in the lid, so that it can be moved transversely of the same to manipulate the bolt. Below the bolt we mount on the under side of the lid a rack-bar S, the upper edge of which bears against the lower edge of the bolt and is formed with a projection or offset T at its rear end, which extends into the path of the bolt, as shown. The lower edge of this bar is provided with the rack-teeth U and a notch V, the purpose of which will presently appear. A pawl W is arranged below the rack-bar and is pressed normally into engagement with the notch V by a spring X, which is secured to the lid and bears against the pawl between the pivot of the same and the end thereof. The pawl is provided with a handle or knob Y on the outer side of the box similar to the handles or knobs M and Q, by means of which it may be rotated to be disengaged from the notch V in the rack-bar. Adjacent to the pawl and below the rack-bar we provide a gear Z, the teeth of which engage the teeth U of the rack-bar, so that when the said gear is rotated the

bolt will be caused to slide. The gear is likewise provided with a knob or handle *a* on the outer side of the lid to facilitate its rotation.

When the box is locked, the several parts will be arranged as shown in Fig. 2, in which position it is evident that the bolt is prevented from sliding, as the projection at the rear end of the rack-bar bears against the straight edge of the cam, and thereby prevents the rotation of the same, while the bolt is prevented from sliding backward until the cam has been turned so as to present its straight edge thereto. The bolt is further prevented from sliding by the slides *G* *H*, as will be readily understood upon reference to the drawings, so that should the cam be accidentally turned the bolt will still be prevented from being drawn.

In order to open the box, the handle or knob of the slide *G* is moved toward the adjacent end of the lid, thus disengaging the slide from the notch in the bolt, and the slide *H* is pushed inward, thus releasing the point at the end thereof from the shoulder at the end of the bolt and moving it into the path of the recess presented by the second shoulder of the bolt. The pawl is then disengaged from the bolt and the gear rotated, so as to slide the rack-bar toward the front edge of the lid. The cam will thus be freed and is then rotated so as to present its straight edge to the rear end of the bolt, when the bolt may be pushed rearward and released from the box.

In order to lock the box, a substantially reverse operation is performed. The bolt is pushed forward so as to engage the edge of the box and the cam is turned so as to bear against the rear end of the bolt. The gear is then rotated, so as to slide the rack-bar forward and bring the projection thereon against the straight edge of the cam, the pawl automatically slipping into engagement with the notch in the rack-bar, so as to prevent premature backward movement thereof. The slide *H* is moved toward the end of the lid, so as to bring the point on the end of the same into engagement with the shoulder at the rear end of the bolt, and the slide *G* is pushed inward, so as to cause the tongue at the inner end thereof to engage the notch in the upper edge of the bolt. The bolt will be thus positively prevented from springing or from being accidentally drawn.

It is thought the advantage of our improved fastening will be obvious from the foregoing description, taken in connection with the accompanying drawings. The bolt is thoroughly protected against disengagement by the shocks to which the box may be subjected, and the outer side of the lid presents no clew to the manner in which the box may be opened, as the only projections on the box are a series of exactly similar knobs, which are so arranged as to be easily mistaken for orna-

ments. The owner of the box becomes thoroughly familiar with the order in which the knobs or handles must be operated in order to open the box, and consequently has no trouble in opening it; but any other person is obliged to study out the manner of opening the box, and as that necessitates the expenditure of considerable time the liability of such person to be discovered before he has opened the box is very great.

The several parts of our device are very small and can be consequently manufactured at a slight cost, and when placed in position in the lid will not add very materially to the weight of the box. While the elements of the lock all co-operate, they are, nevertheless, disconnected and independent, so that any one element can be cleaned or repaired without necessitating any attention to any of the others.

In order that the owner may know when the cam has been rotated a proper distance, we provide an index-groove on the handle of the same. When this groove points toward the handle of the bolt, the straight edge of the cam is adjacent to the edge of the bolt.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of a sliding bolt, a cam in rear of the same, having a straight edge, and a slide adapted to bear against the straight edge of the cam, substantially as and for the purposes set forth.

2. The combination of the bolt and the slides arranged above the same, one of the said slides engaging the upper edge of the bolt and the other one passing under and engaging the inner end of the same, as set forth.

3. The combination of the bolt, the cam in rear of the same, having a straight edge, the rack-bar having a projection adapted to bear against the straight edge of the cam, a pawl adapted to engage the rack-bar to prevent movement of the same, and a gear engaging the said rack-bar and adapted to operate the same, as set forth.

4. The combination of the bolt arranged on the inner side of the lid, a handle on the outer side of the lid, connected to the bolt, a series of devices on the inner side of the lid, adapted to prevent movement of the bolt, and a series of independent handles on the outer side of the lid, each of said handles being connected to one of the devices for preventing movement of the bolt, as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

SOLOMON GLIKSMON.
ABRAM DOEFF.

Witnesses:

JAMES J. ISSE,
THOS. CURRAN.